
Trends in the use of DOCLINE and the OCLC ILL Subsystem 1986–1992

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An examination of interlibrary loan statistics from 1986 through 1992 at the Health Sciences Library (HSL), State University of New York at Buffalo, revealed that the numbers of requests received via DOCLINE increased steadily over this period. Meanwhile, the numbers of requests received via OCLC rose from 1986 to 1989 but then declined steadily from 1989 to 1992. To understand and interpret these trends, a survey of various libraries that obtain material from HSL was conducted to collect data on their use of DOCLINE and OCLC. Analysis of the data confirmed that the use of DOCLINE was on the increase, especially in health sciences libraries, and that in some of these libraries requests for documents via OCLC were on the decline. The ratio of requests via DOCLINE versus OCLC ranged from 2:1 to 5:1. In the non-health sciences libraries that request from HSL, use of DOCLINE is minimal compared to that of OCLC.

INTRODUCTION

Interlibrary document transfer has been on the increase in recent years, both nationally and internationally, reflecting the move toward document access versus ownership. Nationally, this has coincided with the introduction of online interlibrary loan (ILL) systems, such as OCLC, DOCLINE, RLIN, New York State Interlibrary Loan (NYSILL), and others. At the Health Sciences Library (HSL), State University of New York at Buffalo, the increase in ILL has mirrored that of the national scene. However, HSL staff observed a trend during a recent six-year period in which the number of requests received via OCLC rose for three years and then fell significantly over the last three years. At the same time, requests for loans and photocopies via DOCLINE rose steadily. To interpret these trends, a survey was conducted of the libraries that borrow from HSL using either one or both of these ILL networks. The objectives were to find out what systems libraries preferred for processing their interlibrary borrowing and to ascertain from the survey whether HSL's lending trend coincided with the borrowing trend. Another objective, assuming the trends coincided, was to suggest a need for a broader survey at the national level.

The purpose of the survey was not to compare DOCLINE and OCLC as ILL systems or to extol the

virtues of one over the other. The idea was simply to compare the statistical trends in lending that HSL had observed with the trends of the borrowing libraries and to interpret the data.

A review of the literature since 1979 revealed no documents comparing OCLC and DOCLINE in relation to ILL trends and very few that mentioned both systems except for their functional and operational uses. Articles have been written that addressed one of the two systems in great detail and indicated their impacts. In 1990, Della Lea McGaugh stated, "Surprisingly, the literature contains little quantitative data about ILL patterns in relation to online systems. . . . There appears to be a need for a national survey designed to assess the effect of online systems on ILL" [1]. McGaugh also pointed out that "few reports" are available on the effect of online systems on health sciences libraries [2]. It is the hope of this author that the HSL survey sheds some light on the latter concern and will serve as a foundation for work on general trends in online ILL systems.

BACKGROUND

History of DOCLINE

Operation of DOCLINE, the automated ILL request-routing system of the National Library of Medicine (NLM), started in March 1985 [3]. In 1989, more than

1,700 libraries used the system, and, in 1992, there were more than 2,300 DOCLINE users in the country, 11% more than in 1991 [4]. In September 1985, the HSL began to participate as a resource library in the then-Regional Medical Library (RML) Network, now called the National Network of Libraries of Medicine (NN/LM), and HSL continues to be an important resource library in region 1 of that network.

A basic feature of DOCLINE is its simplicity and ease of use. With a few keystrokes, DOCLINE allows for the creation of requests that are routed automatically once the unique MEDLINE identifier or SERLINE number is available. Otherwise, the complete bibliographic citation can be entered manually, and the user can create his or her own routing. As previous authors have observed, "the system routes requests only to libraries that have reported owning the item. . . . the system automatically reroutes unfilled requests to another potential lender without additional intervention by the requesting library" [5]. If desired, a request may be routed to NLM as the library of last resort.

In 1987, approximately 788,105 ILL requests nationwide were entered into DOCLINE [6]. For the last quarter of 1988, more than 120,000 requests monthly were routed through the system [7]. Based on this figure, more than one million requests would have been routed through this system in 1988. DOCLINE is used heavily by the health sciences libraries in universities and the so-called basic health sciences libraries (BHSLs), such as those in hospitals, some medical centers, and pharmaceutical and other corporations. Some of these health sciences libraries are resource libraries in the NN/LM.

History of OCLC

The OCLC Online Computer Library Center Interlibrary Loan Subsystem was started in April 1979 [8]. By May 1992 there were 37,914,021 ILL requests and 15,409 participating libraries in OCLC [9]. The subsystem recorded its forty-three millionth ILL request in March 1993 and its forty-four millionth a month later [10].

The *OCLC Annual Report 1988/89* indicated that 10,384 participating libraries carried out approximately 4.3 million ILL transactions, compared to 1987/88, when 9,400 libraries conducted 3.8 million transactions [11]. These figures indicate growth of approximately 1,000 libraries per year. Some of this growth is due to group access capability (GAC), which allows selected non-OCLC members to group with members to perform ILL transactions from holdings among the groups. The GAC increases availability of materials to patrons by facilitating resource sharing within the cooperative ILL groups.

The OCLC ILL Subsystem automatically routes a

request in sequence to each potential library in a five-lender string selected by the borrowing library until the request is filled. If filled, the request goes no further, and a "shipped" message is sent to the borrower. An unfilled request is routed to the next possible lender. The ILL Subsystem has a message component that reports the status of each request to the borrowing and lending libraries.

OCLC GAC in western New York

The Western New York Group Access Capability System, which started in 1987, had thirty-seven active participants in 1989, when the plan was to add five selective users and two full OCLC users, to make a total of forty-four participants in 1989. By June 1990, there were fifty participants. HSL participates in this program as one of the full OCLC users.

SITUATION AT HSL

For the years 1986 through 1992, an average of 29,000 ILL requests were received annually at HSL, and, together, DOCLINE and OCLC accounted for an average of 57% of those requests. Given the history of both systems, on the basis of numbers alone a greater volume of ILL activity would be expected on OCLC than on DOCLINE, because, on the average, one million requests are routing through DOCLINE annually with six million via OCLC; and also because far more libraries use OCLC. However, statistics at HSL show that at least from 1989 to 1992, ILL volume on OCLC is lower than on DOCLINE (Table 1).

During the period July 1989 through June 1992, DOCLINE ILL requests increased by 31%, whereas OCLC ILL requests declined by 29% over the same period. A look at the previous three years, 1986 to 1989, reveals that the number of ILL requests received at HSL via DOCLINE increased steadily. The number of requests for 1988/89 increased 73% beyond 1987/88; this was a time when basic health sciences libraries started using DOCLINE directly to improve resource sharing through online ILL and when DOCLINE became increasingly popular among academic health sciences libraries and medical centers. It makes sense, therefore, that ILL lending activity at HSL increased on DOCLINE and has continued to do so, as more basic health sciences libraries and small corporate libraries join the system.

From 1986 to 1989, there were annual increases in requests of more than 50% in successive years for OCLC. At that time, and especially in 1988/89, ILL requests on this system increased noticeably, due particularly to the advent of GAC in western New York.

The decline in OCLC use at HSL for July 1989 to June 1992 could be attributed to a number of factors. It may be that as per-transaction costs for ILL rose,

Table 1
Statistical profile for ILL requests received at HSL via DOCLINE and OCLC

| Year (July–June) | DOCLINE | | | | OCLC | | | |
|---------------------|------------|-------------------|-----------------------------------|---------------------------|------------|-------------------|-----------------------------------|---------------------------|
| | Total/year | Average/ month | % change over previous year | % change for 1989–1992 | Total/year | Average/ month | % change over previous year | % change for 1989–1992 |
| 1986/87 | 3,889 | 324 | — | n.a. | 4,298 | 358 | — | n.a. |
| 1987/88 | 5,177 | 431 | 33 | n.a. | 6,726 | 561 | 56.5 | n.a. |
| 1988/89 | 8,950 | 746 | 73 | n.a. | 10,596 | 883 | 57.5 | n.a. |
| 1989/90 | 9,183 | 765 | 2.6 | | 10,000 | 833 | –5.6 | |
| 1990/91 | 10,669 | 889 | 16 | 31% | 8,953 | 746 | –10.5 | –29% |
| 1991/92 | 12,060 | 1,005 | 13 | | 7,752 | 646 | –13 | |

smaller libraries requested fewer ILLs on the system. Although GAC users in the western New York region are supported by regional grant monies, increased use and excess transaction time for dial access are charged on a cost-sharing basis to the GAC user. The dial-access charge is divided equally between the grant and the library for the first eight minutes used to request or lend an item. If the total dial-access time exceeds the eight-minute average, then the excess is paid entirely by the library [12]. Although the amount actually charged is low, it could add up to a prohibitive amount for smaller libraries, which therefore may limit OCLC use. On the other hand, DOCLINE use is free of charge. Apart from telephone communication connect cost to the library, NLM offers this service free to participants. Tymnet or Telnet charges are absorbed by NLM.

SURVEY DATA AND ANALYSIS

Method

To make a realistic interpretation of the trend observed at HSL, a survey of 156 libraries that borrow from HSL was conducted. These libraries represent mainly region 1 and region 8 of the NN/LM program. Libraries in region 2 that use HSL's services frequently also were included. The breakdown is as follows by region and state. Region 1: New York (104), Pennsylvania (13), New Jersey (10), Delaware (0), Puerto Rico (1); region 8: Massachusetts (12), Connecticut (6), Maine (3), Rhode Island (2), New Hampshire (1), Vermont (1); and region 2: Maryland (2), North Carolina (1). This group included academic libraries, health sciences libraries in university centers, hospital libraries, non-health sciences or nonhospital libraries in small colleges, and some corporate and pharmaceutical libraries.

Seventy-three (47%) of the libraries responded to the survey. By region and state, the libraries responding included the following. Region 1: New York (51), Pennsylvania (8), New Jersey (1), Puerto Rico (1); region 8: Massachusetts (5), Connecticut (2), Maine (1), Rhode Island (2), New Hampshire (1); and region 2:

Maryland (2). Fifty-seven respondents (76%) were health sciences libraries, medical libraries, or hospital libraries. Sixteen (22%) were non-health sciences libraries, basically university or college libraries that did not support the health sciences but needed to borrow health-related material for their users.

Analysis

Of the fifty-seven health sciences or hospital libraries responding, thirty-nine used both DOCLINE and OCLC, seventeen used DOCLINE only, and one used OCLC only. Most (forty-nine) of these libraries experienced more DOCLINE activity in 1991 than in 1988. On the other hand, of the forty health sciences or hospital libraries that used OCLC, twenty had more OCLC activity in 1991 than in 1988, while seventeen had less (Appendix A).

Twenty of the libraries that showed increased activity on DOCLINE but used both systems indicated far greater use of DOCLINE than of OCLC, in ratios that ranged from 2:1 to 5:1.

When data for both systems are examined together, it appears that in health sciences-type libraries the use of both systems has increased in general, but the overall use of DOCLINE is undoubtedly greater than OCLC for document requests. One important fact is that slightly less than half (seventeen out of forty) libraries using OCLC reported less use in 1991 than in 1988.

In the non-health sciences libraries, the situation is different. All sixteen of these libraries use OCLC, and two also use DOCLINE. Most of them have experienced greater OCLC than DOCLINE activity, and in one of two there was more DOCLINE use for 1991 than in 1988.

It is clear that in the basic health sciences categories, DOCLINE is predominant, while in the non-health sciences libraries, OCLC is used more often. It should be pointed out that DOCLINE is available only to NN/LM libraries, which must have their holdings in SERHOLD. In the health sciences libraries, although usage in both systems increased in many cases be-

tween 1988 and 1991, more ILL borrowing transactions were done on DOCLINE, and only four responding libraries reported greater activity on OCLC than on DOCLINE for 1991.

On reexamining the historical data, it can be recalled that far greater activity occurs nationally on OCLC than on DOCLINE. It is interesting to note that in the health sciences libraries that borrow from HSL, OCLC use appears to have declined somewhat over the last three or four years. The survey data support that finding in that some of the health sciences libraries reported OCLC use in fact decreased while DOCLINE activity was increasing and becoming the dominant mode for ILL. But it also should be noted that at some other health sciences libraries, use of OCLC grew, even when DOCLINE activity was greater by at least twofold.

DISCUSSION

Why is this shift in online ILL systems occurring? The reasons vary, depending on the library. Even OCLC staff members do not know; their researchers did note that in fiscal year 1991, ILL activity in research libraries declined after showing steady growth from 1981 to 1990 [13]. The same researchers asked, "Are libraries cutting down on ILL operations in response to tightening budgets? . . . or is the increasing tendency to recover ILL costs contributing to a reduction in ILL activity?" [14]. OCLC plans to conduct a study to find the principal reasons.

Cost may be a factor, but the HSL survey results did not indicate this to be a major reason. Even though there is a charge for using OCLC, only twenty-seven (47%) of the responding libraries pay, and an even smaller number reported having to pay for excess dial-access time. This money could be a burden to libraries that have small, fixed operating budgets and also on those that face regular budget cuts. In a small number of cases, OCLC charges were mentioned as a problem; for example, "in the present economic climate for small hospitals I cannot justify costs of \$400.00 and more per quarter for OCLC borrowing," and "can't afford OCLC" [15]. These types of comments were few, and, therefore, it cannot be concluded that cost is a major factor. But it is a factor, because DOCLINE usage is essentially free, a feature that was applauded on the survey responses.

Other reasons suggested for the greater use of DOCLINE than of OCLC were (1) ease of use on DOCLINE (fifty-one respondents out of seventy-three) coupled with the availability of QUICKDOC, a software package that enhances and speeds up DOCLINE transaction time; (2) the link to MEDLINE databases (forty-two respondents out of seventy-three), a feature favored by hospital and health sciences libraries for forwarding ILL transactions with full citations;

(3) DOCLINE's routing capability, which allows for extended routing to more libraries than does the five-lender string offered by OCLC; and (4) less time required to input data and to pull reports on DOCLINE than on OCLC.

The work form was given an equal rating for both systems, but some respondents commented that DOCLINE was easier to use. OCLC was preferred for its messaging capabilities—one area in which DOCLINE is lacking. Some of the comments suggested that OCLC also was a better tool for requesting book loans in the health sciences libraries. There is no automatic book routing on DOCLINE. Locations for book requests on DOCLINE are entered manually, because this system does not provide monographic locations. OCLC gives monograph locations, but these have to be entered manually to set up the automatic routing string.

Also, OCLC often is used to access nonmedical lending libraries and to seek out libraries that do not charge or have very low ILL charges (e.g., \$5.00). The minimum charge for an ILL-filled request in most region 1, region 8, and some other medical libraries is \$8.00, but some libraries that are DOCLINE sources do not charge and have free reciprocal interlending. The importance of free ILL is reflected in this comment from the survey: "If we know a journal will cost us a coupon or a charge on DOCLINE we will try OCLC for a free source. We keep a list of journal titles that have cost us coupons on DOCLINE" [16].

CONCLUSION

The survey of HSL-borrowing libraries supported the observed trends of a decline in OCLC borrowing activity and a definite increase in DOCLINE activity. The survey also provided comments and data that offered probable reasons for the declining OCLC use in health sciences libraries and increasing DOCLINE use from 1989 through 1992.

Additional research should be done to determine whether these trends are occurring nationally in biomedical libraries. In her 1990 article, McGaugh suggested, "no support is given to the expectation that DOCLINE would produce major changes in ILL activity among these libraries" [17]. She was studying data only one year after DOCLINE was introduced. In fact, both DOCLINE and OCLC have stimulated major changes in ILL activity, at the very least in terms of mere volume increases. Among libraries that borrow from HSL, DOCLINE usage resulted in increased ILL volume. Some of these same libraries also experienced increased OCLC borrowing, but their activity on DOCLINE definitely outpaced any OCLC activity. HSL's declining OCLC volume from 1989 to 1992 is due to the high numbers of health sciences libraries that have indicated reduced OCLC borrowing. All comparisons aside, it must be noted that both

systems provide the great benefit of allowing for speedy and improved access to library resources for a wide and growing cross-section of library users.

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15. Two responses to survey question 10 ("any other comments").
16. Response to survey question 10.
17. MCGAUGH, *op. cit.*, 128.

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APPENDIX A

Survey questionnaire

1. Which online system do you use for your ILL borrowing?*
- OCLC yes ___ no ___
- DOCLINE yes ___ no ___
2. For 1991 would you say you made
- more ___ less ___ requests on OCLC than during
- 1988?†

* Responses: 17 health sciences libraries use DOCLINE only; 1 uses OCLC only; 39 use both systems. No non-health sciences libraries use DOCLINE only; 14 use OCLC only; 2 use both systems.

† Responses: 20 health sciences libraries made more requests on OCLC in 1991 than in 1988 (only in 4 of these cases did OCLC

Give estimates for each year: 1988 ___ 1989 ___
1990 ___ 1991 ___

3. For 1991 would you say you made
- more ___ less ___ requests on DOCLINE than during 1988?‡

Give estimates for each year: 1988 ___ 1989 ___
1990 ___ 1991 ___

4. Which of the following features of either system do you like?§

| DOCLINE | OCLC |
|---------------------------------|--------------------------------|
| ease of use (51) | ease of use (20) |
| low cost factor (24) | low cost factor (8) |
| no cost (42) | no cost (1) |
| work form (25) | work form (26) |
| reporting mechanism (23) | reporting mechanism (7) |
| time taken to input (39) | time taken to input (9) |
| time taken to pull reports (19) | time taken to pull reports (7) |
| link to MEDLINE, etc. (42) | link to MEDLINE, etc. (0) |
| messaging capabilities (7) | messaging capabilities (15) |
| routing capabilities (41) | routing capabilities (28) |
| hardware (6) | hardware (1) |
| other _____ | other _____ |

5. Do you pay to be a part of OCLC/GAC? **
- yes ___ no ___
- If yes, how much?
6. Do you pay any costs for excessive use/transaction time on OCLC? (communication connect costs not considered)††
- yes ___ no ___
- How much on an average per month? _____
7. If you currently do not use either of these 2 systems please indicate your reasons why.‡‡
- lack of hardware
- low activity level

have greater activity than DOCLINE); 17 made fewer requests. Fifteen non-health sciences libraries made more requests on OCLC in 1991 than in 1988; none made fewer.

‡ Responses: 49 health sciences libraries made more requests on DOCLINE in 1991 than in 1988 (in 20 cases, DOCLINE activity was much greater than OCLC); 2 made fewer requests. One non-health sciences library made more requests on DOCLINE in 1991 than in 1988; none made fewer.

§ The number of positive responses are indicated in parentheses; some respondents did not check all of these choices.

** Responses: 19 health sciences libraries said yes, 21 said no. Seven non-health sciences libraries said yes; 8 said no.

†† Responses: 11 health sciences libraries said yes, 22 said no. Three non-health sciences libraries said yes; 10 said no.

‡‡ No responses to question 7, because all respondents use one or the other or both systems.

inexperience with the systems
administration's decision
other _____

8. What other methods do you use for ILL borrowing? §§
telefacsimile transmission (56)
mail service (48)
telephone (47)
other _____
(e-mail: 4)***
(NYSILL: 5)***

§§ Number of positive responses are indicated in parentheses.
*** "Other" responses.

(RLIN: 2)***
(Ariel: 1)***
(ALA form: 2)***
(Courier: 5)***

9. If you use both, how do you decide what system to use
on an item by item basis? §§
choose according to material requested (book, journal,
av, etc.) (32)
choose according to subject of request (whereby access
to different resource sharing networks is possible)
(20)
staff preference (6)
institutional mandate (1)
10. Any other comments you wish to add?

CORRECTION

In "Our International Interests: A Reprise" [Bull Med Libr Assoc 1994 Apr;82(2):227], MLA member Beatrix H. Robinow was incorrectly identified in the fourth paragraph as "Beatrix Robinson." The editors regret the error.